

U.S. SERIAL NO: 07/867, 819
FILED: April 13, 1992
AMENDMENT

In the Claims

Stat. CT
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1. (twice amended) A peptide forming a linear epitope for a human autoantibody selected from the group of peptides of less than forty amino acids, wherein the sequence of the epitope [beginning] begins with the amino acid numbered from the amino terminus followed by the listed amino acid sequence consisting of

the La/SSB epitopes: 136, QVLNIQMRRTLHKAFKGS (Sequence Listing ID No. 19), 139, NIQMRRTLHKAFK (amino acids 4-16 of Sequence Listing ID No. 19), 144, RTLHKAFK (amino acids 9-16 of Sequence Listing ID No. 19), 17, ICHQIEYYFGDFNLPRDKFLK (Sequence Listing ID No. 20), 24, YFGDFNLP (amino acids 8-15 of Sequence Listing ID No. 20), 46, WVPLEIMIKFNR (Sequence Listing ID No. 21), 47, VPLEIMIK (amino acids 2-9 of Sequence Listing ID No. 21), 86, [KKTKIRRSPSKPL] KTKIRRSPSKPL (Sequence Listing ID No. 22), [89] 88, KIRRSPSK (amino acids 4-11 of Sequence Listing ID No. 22), 56, NRLNRLTTDFNVIVE, (Sequence Listing ID No. 23), 56, NRLNRLTT (amino acids 1-8 of Sequence Listing ID No. 23), 257, GEIKWIDFVRGAK (Sequence Listing ID No. 24), 260, KWIDFVRGAK (amino acids 4-13 of Sequence Listing ID No. 24), 262, IDFVRGAK (amino acids 6-13 of Sequence Listing ID No. 24), 325, SLNKWKSKGRRFKGKGKGNK (Sequence Listing ID No. 25), 330, KSKGRRFK (amino acids 6-13 of Sequence Listing ID No. 25), 292, GNLQLRNKEVTW (Sequence Listing ID No. 26), 296, LRNKEVTW (amino

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acids 5-12 of Sequence Listing ID No. 26), 154, IFVVFDSIE (Sequence Listing ID No. 27), 155, FVVFDSIE (amino acids 2-9 of Sequence Listing ID No. 27), 176, KETDLLILFKDDYFA (Sequence Listing ID No. 28), 182, ILFKDDYF (amino acids 7-14 of Sequence Listing ID No. 28), 104, YKNDVKNRSVYIKGFPT (Sequence Listing ID No. 29), 112, SVYIKGFP (amino acids 9-16 of Sequence Listing ID No. 29), 63, TDFNVIVE (Sequence Listing ID No. 30), 64, DFNVIVEA (amino acids 2-9 of Sequence Listing ID No. 30), 270, EGIILFKEKAK (Sequence Listing ID No. 31), 270, EGIILFKE (amino acids 1-8 of Sequence Listing ID No. 31), 354, KVQFQGKKTKFASD, (Sequence Listing ID No. 32), 360, KKTKFASD (amino acids 7-14 of Sequence Listing ID No. 32), 246, REDLHILF (Sequence Listing ID No. 33), 232, CLLKFSGD (Sequence Listing ID No. 34), 379, TGPVKRAR (Sequence Listing ID No. 35), 200, KVEAKLRAKQ (Sequence Listing ID No. 36), 202, EAKLRAKQ (amino acids 3-10 of Sequence Listing ID No. 36), ;

the Ro/SSA epitopes: 30, MNRLHRFL (Sequence Listing ID No. 37), 37, LCFGSEGGT (Sequence Listing ID No. 38), 38, CFGSEGGT (amino acids 2-9 of Sequence Listing ID No. 38), [44] 41, SEGGTYYIKEQ (Sequence Listing ID No. 39), [45] 42, EGGTYYIKEQ (amino acids 2-11 of Sequence Listing ID No. 39), [47] 44, GTYYIKEQ (amino acids 4-11 of Sequence Listing ID No. 39), [47] 44, GTYYI (amino acids 4-8 of Sequence Listing ID No. 39), [74] 76, EIKSFSQEGRT (Sequence Listing ID No. 40), 78, KSFSQEGR

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(amino acids 3-10 of Sequence Listing ID No. 40), 81, SQEGRTTKQ (Sequence Listing ID No. 41), 84, GRTTKQEPM (Sequence Listing ID No. 42), [105] 106, STKQAAFKAV (amino acids 2-11 of Sequence Listing ID No. 43), [106] 105, ISTKQAAFKAVS (Sequence Listing ID No. 43), [109] 108, KQAAFKAV (amino acids 4-11 of Sequence Listing ID No. 43), 111, AFKAVSEVC (Sequence Listing ID No. 44), 126, FTFIQFKKDLKESMK (Sequence Listing ID No. 45), 130, QFKKDLKE (amino acids 5-12 of Sequence Listing ID No. 45), 138, SMKCGMWGRA (Sequence Listing ID No. 46), 139, MKCGMWGRA (amino acids 2-10 of Sequence Listing ID No. 46), 142, GMWGRALRKAIA (Sequence Listing ID No. 47), 145, GRALRKAI (amino acids 4-11 of Sequence Listing ID No. 47), 165, [ALAVTKYKQRNGWSHKDLLRLSH] ALAVTKYKQRNGWSHKDLLRLSH (Sequence Listing ID No. 48), 169, [TKYKQRNG] TKYKQRNG (amino acids 5-12 of Sequence Listing ID No. 48), 173, [ORNGWSHK] QRNGWSHK (amino acids 9-16 of Sequence Listing ID No. 48), 182, LLRLSHLKPSS (Sequence Listing ID No. 49), 184, RLSHLKPS (amino acids 3-10 of Sequence Listing ID No. 49), [198] 199, TKYITKGW (amino acids 2-9 of Sequence Listing ID No. 71), [201] 202, ITKGWKEV (amino acids 5-12 of Sequence Listing ID No. 71), 210, HEKYKEKA (Sequence Listing ID No. 50), 212, LYKEKALSV (Sequence Listing ID No. 51), [215] 216, KALSVETEKLLKYL (Sequence Listing ID No. 52), [221] 222, TEKLLKYL (amino acids 7-14 of Sequence Listing ID No. 52), 224, KLLKYLEA (Sequence Listing ID No. 53), 229, LEAVEKVKRTKDE (Sequence

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Listing ID No. 54), 234, KVKRTKDE (amino acids 6-13 of Sequence
Listing ID No. 54), 257, HLLTNHLKSKEVWKALLQEMPL (Sequence Listing
ID No. 55), 263, LKSKEVWK (amino acids 7-14 of Sequence Listing
ID No. 55), 264, KSKEVWK (amino acids 8-15 of Sequence Listing
ID No. 55), 265, SKEVWK (amino acids 9-14 of Sequence Listing ID
No. 55), 280 ALLRNLGKMTA (Sequence Listing ID No. 56), 283,
RNLGKMT (amino acids 4-10 of Sequence Listing ID No. 56), 285,
LGKMTANS (Sequence Listing ID No. 57), 308, LCNEKLLKKARIHPFHI
(Sequence Listing ID No. 58), 313, LLKKARI (amino acids 6-12 of
Sequence Listing ID No. 58), 315, KKARIHPF (amino acids 8-15 of
Sequence Listing ID No. 58), 330, TYKTGHGLRGKLKWRPDE (Sequence
Listing ID No. 59), 331, YKTGHGL (amino acids 2-8 of Sequence
Listing ID No. 59), 352, ALDAAFYK (Sequence Listing ID No. 60),
355, AAFYKTFKTVEPTGKRFLLA (Sequence Listing ID No. 61), [362]
379, [ASMNORVLGS] ASMNQRVLGS (Sequence Listing ID No. 62), 365,
EPTGKRFL (amino acids 11-18 of Sequence Listing ID No. 61), 398,
AMCMVVTR (Sequence Listing ID No. 63), 414, AFSDEMVP (Sequence
Listing ID No. 64), 420, VPCPVTTD (Sequence Listing ID No. 65),
433, VLMAMMSQI (Sequence Listing ID No. 66), 445, TDCSLPMI
(Sequence Listing ID No. 67), 449, LPMIWAQKTNTPA (amino acids 3-
15 of Sequence Listing ID No. 68), [453] 472, TFAGGVHPAI
(Sequence Listing ID No. 69), 472, [TFAGGVHPAI, 472,] TFAGGVH
(amino acids 1-8 of Sequence Listing ID No. 69), [482] 481,

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IALREYRKKMDIPAKL (Sequence Listing ID No. 70), 484, REYRKKMD
(amino acids 4-11 of Sequence Listing ID No. 70);

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the Sm B/B' epitopes: [20] 28, IGTFKAFD (Sequence Listing ID No. 103), [21] 29, GTFKAFDK (Sequence Listing ID No. 1), [22] 30, TFKAFDKH (amino acids 1-8 of Sequence Listing ID No. 15) 29, [GTFKAFDK] 30, TFKAFDKHM (Sequence Listing ID No. 15) 44, DCDEFRKI (Sequence Listing ID No. 104) 45, [CDEFAKIK] CDEFRKIK (amino acids 1-8 of Sequence Listing ID No. 2) 45, CDEFRKIKPKNAKQP (Sequence Listing ID No. 2), 46, [DEFRKJKP] DEFRKIKP (amino acids 2-9 of Sequence Listing ID No. 2), 47, EFRKIKPK (amino acids 3-10 of Sequence Listing ID No. 2), [76] 48, [FRKJKPKN] FRKIKPKN (amino acids 4-11 of Sequence Listing ID No. 2), [77] 49, RKIKPKNA (amino acids 5-12 of Sequence Listing ID No. 2), [78] 50, KIKPKNAK (amino acids 6-13 of Sequence Listing ID No. 2), [79] 51, IKPKNAKQ (amino acids 7-14 of Sequence Listing ID No. 2), [80] 52, [KPNAKOP] KPNAKQP (amino acids 8-15 of Sequence Listing ID No. 2), [81] 53, PKNAKQPE (Sequence Listing ID No. 105), 83, EGPPPKDT (Sequence Listing ID No. 16), 88, KDTGIARV (Sequence Listing ID No. 17), 94, RVPLAGAA (Sequence Listing ID No. 3), 101, AGGPGVGRAAGRGVPAG (Sequence Listing ID No. 4), 104, PGVGRAAG (amino acids 4-11 of Sequence Listing ID No. 4), 120, IPQAPAGLAG (Sequence Listing ID No. 18), 125, AGLAGPVRGVGGPSQ (Sequence Listing ID No. 5), 131, VRGVGGPS (amino acids 6-13 of Sequence Listing ID No. 5) 139, QQVMTPQG

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(Sequence Listing ID No. 107), 140, QVMTPQGR (amino acids 1-6 of Sequence Listing ID No. 6), 141, [VMTPOGRG] VMTPQGRG, amino acids 2-9 of (Sequence Listing ID No. 6), 144, [POGR] PQGR (amino acids 5-8 of Sequence Listing ID No. 6), 142, [MTPQGBGT] MTPQGRGT (amino acids 3-11 of Sequence Listing ID No. 6), 143, TPQGRGTV, (amino acids 4-11 of Sequence Listing ID No. 6), 144, PQGRGTV (amino acids 5-12 of Sequence Listing ID No. 6) 145, QGRGTVAA (Sequence Listing ID No. 108) 164, APTQYPPG (Sequence Listing ID No. 109) 165, PTQYPPGR (amino acids 1-8 of Sequence Listing ID No. 7) 166, TQYPPGRG (amino acids 2-9 of Sequence Listing ID No. 7) 167, QYPPGRGT, amino acids 3-10 of (Sequence Listing ID No. 7) 168, YPPGRGTP (amino acids 4-11 of Sequence Listing ID No. 7) 169, PPGRGTPP (amino acids 5-12 of Sequence Listing ID No. 7) 170, PGRGTPPP (amino acids 6-13 of Sequence Listing ID No. 7) 171, GRGTPPPP (amino acids 7-14 of Sequence Listing ID No. 7) 172, RGTPPPP (amino acids 8-15 of Sequence Listing ID No. 7) 173, GTTPPPVG (Sequence Listing ID No. 110) 174, TPPPPVGRATPPGI (Sequence Listing ID No. 8), 175, PPPPVGRA (amino acids 2-9 of Sequence Listing ID No. 8), 184, PPPGIMAP (Sequence Listing ID No. 9), 188, MAPPPGM (Sequence Listing ID No. 111), 189, MAPPPGM (Sequence Listing ID No. 10), 189, MAPPPGM (amino acids 1-8 of Sequence Listing ID No. 10), 191, PPPGMR (amino acids 3-8 of Sequence Listing ID No. 13), 190, APPPGMRP (amino acids 2-9 of Sequence Listing ID No. 10), 191, PPPGMRPP (amino acids 1-8 of Sequence Listing ID No. 10)

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acids 3-10 of Sequence Listing ID No. 10), 192, PPGMRPPM (amino acids 4-11 of Sequence Listing ID No. 10), 202, PIGLPPARGTPIGMPP (Sequence Listing ID No. 11), 206, PPARGTPI, (amino acids 5-11 of Sequence Listing ID No. 11), 212, PIGMPPPG (Sequence Listing ID No. 12), 213, IGMPPPGM (Sequence Listing ID No. 12), 214, [GMPPPGMB] GMPPPGMR (Sequence Listing ID No. 113), [216, PPPGMB,] 215, MPPPGMRP (Sequence Listing ID No. 118), 216, PPPGMRPP (amino acids 4-11 of Sequence Listing ID No. 14), 217, PPGMRPPP (Sequence Listing ID No. 114), 220, MRPPPPGI (Sequence Listing ID No. 115), 221, RPPPPGIR (amino acids 1-8 of Sequence Listing ID No. 13), 221, RPPPPGIRGPP (Sequence Listing ID No. 13), 223, PPPGIR (amino acids 3-8 of Sequence Listing ID No. 13), 222, PPPPGIRG (amino acids 2-9 of Sequence Listing ID No. 13), 223, PPPGIRGP (amino acids 3-10 of Sequence Listing ID No. 13), 224, PPGIRGPP (amino acids 4-11 of Sequence Listing ID No. 13), 228, RGPPPPGM (amino acids 1-8 of Sequence Listing ID No. 14), 228, RGPPPPGMRPPR (Sequence Listing ID No. 14), 229, GPPPPGMR (amino acids 2-9 of Sequence Listing ID No. 14), 230, PPPPGMRP (amino acids 3-10 of Sequence Listing ID No. 14), 231, PPPGMRPP (amino acids 4-11 of Sequence Listing ID No. 14), 231, PPPGMR (amino acids 3-8 of Sequence Listing ID No. 10), and 232, PPGMRPPR (amino acids 5-12 of Sequence Listing ID No. 14);

the 70 kD nRNP epitopes: (11) ALFAPRDP (Sequence Listing ID No. 72), (65) ERMERKRR (Sequence Listing ID No. 73),

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(133) MVYSKRSG (Sequence Listing ID No. 74), (161) GKKIDGRR
(Sequence Listing ID No. 75), (178) VERGRTVK (Sequence Listing ID
No. 76), (186) VKGWRPRR (Sequence Listing ID No. 77), (264)
RRRSRSRDK (Sequence Listing ID No. 78), (274) RRRSRERS (Sequence
Listing ID No. 79), (277) SRERSKDK (Sequence Listing ID No. 80),
(282) KRRSSRSR (Sequence Listing ID No. 81), and (355) RRSHRSER
(Sequence Listing ID No. 82);

the nRNP A peptide epitopes: (16) LNEKIKKD (Sequence
Listing ID No. 83), (21) KKDELKKS (Sequence Listing ID No. 84),
(44*) SRSLKMRG (Sequence Listing ID No. 85), (73) PFYDKPMR
(Sequence Listing ID No. 86), (93) IIAKMKGTF (Sequence Listing ID
No. 87), (103*) DRKREKRK (Sequence Listing ID No. 88), (116)
QETPATKK (Sequence Listing ID No. 89), (263) ALOGFKIT (Sequence
Listing ID No. 90), and (274) MKISFAKK (Sequence Listing ID No.
91); and

the nRNP C peptide epitopes: (19) RKHKENVK (Sequence
Listing ID No. 92), (35) KDYYQKWM (Sequence Listing ID No. 93),
(56) AFQOOGKIP (Sequence Listing ID No. 94), (61) KIPPTPFS
(Sequence Listing ID No. 95), (78) PPPPSLPG (Sequence Listing ID
No. 96), (82) SLPGPPRP (Sequence Listing ID No. 97), (85)
PPRPGMMP (Sequence Listing ID No. 98), (108) PPPPGMMP (Sequence
Listing ID No. 99), (117) GPAPGMRP (Sequence Listing ID No. 100),
(136) PPMMRPPA (Sequence Listing ID No. 101), and (152) PGMTRPDR
(Sequence Listing ID No. 102).

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Subt C
2. (amended) [The epitope] Peptides of claim 1
consisting of between four and twenty five amino acids.

Bl
3. (amended) [The epitope] Peptides of claim 2
reactive with anti-Ro/SSA polyclonal antibodies.

Clst
4. (amended) [The epitope] Peptides of claim 2
reactive with anti-SM B/B polyclonal antibodies.

5. (amended) [The epitope] Peptides of claim 2
reactive with anti-La/SSB polyclonal antibodies.

6. (amended) [The epitope] Peptides of claim 1
wherein the peptide is selected from the group consisting of 29,
GTFKAFDK (Sequence Listing ID No. 1), 45, CDEFRKIKPKNAKQP
(Sequence Listing ID No. 2), 94, RVPLAGAA (Sequence Listing ID
No. 3), 101, AGGPGVGRAAGRGVPAG (Sequence Listing ID No. 4), 125,
AGLAGPVRGVGGPSQ (Sequence Listing ID No. 5), 140, [QVMTPQGRGTVA]
QVMTPQGRGTVA (Sequence Listing ID No. 6), 165, PTQYPPGRGTPPPPV
(Sequence Listing ID No. 7), 174, TPPPPVGRATPPPGI (Sequence
Listing ID No. 8), 184, PPPGIMAP (Sequence Listing ID No. 9),
189, MAPPPGMRPPM (Sequence Listing ID No. 10), 202,
PIGLPPARGTPIGMPP (Sequence Listing ID No. 11), 212, PIGMPPPG
(Sequence Listing ID No. 12), 221, RPPPPGIRGPP (Sequence Listing
ID No. 13), [and] 228, RGPPPPGMRPPR (Sequence Listing ID No. 14),
30, TFKAFDKHM (Sequence Listing ID No. 15), 83, EGPPPKDT
(Sequence Listing ID No. 16), 88, KDTGIARV, (Sequence Listing ID

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No. 17), and 120, IPQAPAGLAG (Sequence Listing ID No. 18), or mixtures thereof.

7. (amended) [The epitopes] Peptides of claim 1 in combination with a pharmaceutical carrier for administration to a patient.

Sub C3
8. (amended) [The epitopes] Peptides of claim 7 in an effective concentration for administration to a patient to neutralize circulating autoantibody.

9. (amended) [The epitopes] Peptides of claim 7 further comprising a pharmaceutical carrier for administration to a patient, wherein the carrier and concentration of sequences elicit an immune response when administered to a host.

Sub C3
10. (amended) [The epitopes] Peptides of claim 1 labelled with a compound selected from the group consisting of dyes, fluorescent labels, chemiluminescent labels, enzymes, and radioactive labels.

Sub C3
11. (amended) [The epitopes] Peptides of claim 1 immobilized onto a substrate.

Sub D
12. (twice amended) A method for screening patients for autoimmune disorders comprising reacting a biological sample with a peptide forming a linear [an] epitope selected from the group of peptides of less than forty amino acids, beginning with the amino acid numbered from the amino terminus followed by the listed amino acid sequence consisting of

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the La/SSB epitopes: 136, QVLNIQMRRTLHKAFKGS (Sequence Listing ID No. 19), 139, NIQMRRTLHKAFK (amino acids 4-16 of Sequence Listing ID No. 19), 144, RTLHKAFK (amino acids 9-16 of Sequence Listing ID No. 19), 17, ICHQIEYYFGDFNLPRDKFLK (Sequence Listing ID No. 20), 24, YFGDFNLP (amino acids 8-15 of Sequence Listing ID No. 20), 46, WVPLEIMIKFNR (Sequence Listing ID No. 21), 47, VPLEIMIK (amino acids 2-9 of Sequence Listing ID No. 21), 86, [KKTKIRRSPSKPL] KTKIRRSPSKPL (Sequence Listing ID No. 22), [89] 88, KIRRSPSK (amino acids 4-11 of Sequence Listing ID No. 22), 56, NRLNRLTTDFNVIVE, (Sequence Listing ID No. 23), 56, NRLNRLTT (amino acids 1-8 of Sequence Listing ID No. 23), 257, GEIKWIDFVRGAK (Sequence Listing ID No. 24), 260, KWIDFVRGAK (amino acids 4-13 of Sequence Listing ID No. 24), 262, IDFVRGAK (amino acids 6-13 of Sequence Listing ID No. 24), 325, SLNKWKSKGRRFKGKGKGNK (Sequence Listing ID No. 25), 330, KSKGRRFK (amino acids 6-13 of Sequence Listing ID No. 25), 292, GNLQLRNKEVTW (Sequence Listing ID No. 26), 296, LRNKEVTW (amino acids 5-12 of Sequence Listing ID No. 26), 154, IFVVFDSIE (Sequence Listing ID No. 27), 155, FVVFDSIE (amino acids 2-9 of Sequence Listing ID No. 27), 176, KETDLLILFKDDYFA (Sequence Listing ID No. 28), 182, ILFKDDYF (amino acids 7-14 of Sequence Listing ID No. 28), 104, YKNDVKNRSVYIKGFPT (Sequence Listing ID No. 29), 112, SVYIKGFP (amino acids 9-16 of Sequence Listing ID No. 29), 63, TDFNVIVE (Sequence Listing ID No. 30), 64, DFNVIVEA

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(amino acids 2-9 of Sequence Listing ID No. 30), 270, EGIILFKEKAK
(Sequence Listing ID No. 31), 270, EGIILFKE (amino acids 1-8 of Sequence Listing ID No. 31), 354, KVQFQGKTKFASD, (Sequence Listing ID No. 32), 360, KKTKFASD (amino acids 7-14 of Sequence Listing ID No. 32), 246, REDLHILF (Sequence Listing ID No. 33), 232, CLLKFSGD (Sequence Listing ID No. 34), 379, TGPVKRAR (Sequence Listing ID No. 35), 200, KVEAKLRAKQ (Sequence Listing ID No. 36), 202, EAKLRAKQ (amino acids 3-10 of Sequence Listing ID No. 36), ;

the Ro/SSA epitopes: 30, MNRLHRFL (Sequence Listing ID No. 37), 37, LCFGSEGGT (Sequence Listing ID No. 38), 38, CFGSEGGT (amino acids 2-9 of Sequence Listing ID No. 38), [44] 41, SEGGTYYIKEQ (Sequence Listing ID No. 39), [45] 42, EGGTYYIKEQ (amino acids 2-11 of Sequence Listing ID No. 39), [47] 44, GTYYIKEQ (amino acids 4-11 of Sequence Listing ID No. 39), [47] 44, GTYYI (amino acids 4-8 of Sequence Listing ID No. 39), [74] 76, EIKSFSQEGRT (Sequence Listing ID No. 40), 78, KSFSQEGR (amino acids 3-10 of Sequence Listing ID No. 40), 81, SQEGRTTKQ (Sequence Listing ID No. 41), 84, GRTTKQEPM (Sequence Listing ID No. 42), [105] 106, STKQAAFKAV (amino acids 2-11 of Sequence Listing ID No. 43), [106] 105, ISTKQAAFKAVS (Sequence Listing ID No. 43), [109] 108, KQAAFKAV (amino acids 4-11 of Sequence Listing ID No. 43), 111, AFKAVSEVC (Sequence Listing ID No. 44), 126, FTFIQFKKDLKESMK (Sequence Listing ID No. 45), 130, QFKKDLKE

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(amino acids 5-12 of Sequence Listing ID No. 45), 138, SMKCGMWGRA
(Sequence Listing ID No. 46), 139, MKCGMWGRA (amino acids 2-10 of
Sequence Listing ID No. 46), 142, GMWGRALRKAIA (Sequence Listing
ID No. 47), 145, GRALRKAII (amino acids 4-11 of Sequence Listing
ID No. 47), 165, [ALAVTKYKORNGWSHKDLLRLSH]

ALAVTKYKQRNGWSHKDLLRLSH (Sequence Listing ID No. 48), 169,
[TKYKORNG] TKYKQRNG (amino acids 5-12 of Sequence Listing ID No.
48), 173, [ORNGWSHK] QRNGWSHK (amino acids 9-16 of Sequence
Listing ID No. 48), 182, LLRLSHLKPSS (Sequence Listing ID No.
49), 184, RLSHLKPS (amino acids 3-10 of Sequence Listing ID No.
49), [198] 199, TKYITKGW (amino acids 2-9 of Sequence Listing ID
No. 71), [201] 202, ITKGWKEV (amino acids 5-12 of Sequence
Listing ID No. 71), 210, HELEYKEKA (Sequence Listing ID No. 50),
212, LYKEKALSV (Sequence Listing ID No. 51), [215] 216,
KALSVETEKLLKYL (Sequence Listing ID No. 52), [221] 222, TEKLLKYL
(amino acids 7-14 of Sequence Listing ID No. 52), 224, KLLKYLEA
(Sequence Listing ID No. 53), 229, LEAVEVKVKRTKDE (Sequence
Listing ID No. 54), 234, KVVKRTKDE (amino acids 6-13 of Sequence
Listing ID No. 54), 257, HLLTNHLKSKEVWKALLQEMPL (Sequence Listing
ID No. 55), 263, LKSKEVWK (amino acids 7-14 of Sequence Listing
ID No. 55), 264, KSKEVWK (amino acids 8-15 of Sequence Listing
ID No. 55), 265, SKEVWK (amino acids 9-14 of Sequence Listing ID
No. 55), 280 ALLRNLGKMTA (Sequence Listing ID No. 56), 283,
RNLGKMT (amino acids 4-10 of Sequence Listing ID No. 56), 285,

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LGKMTANS (Sequence Listing ID No. 57), 308, LCNEKLLKKARIHPFHI
(Sequence Listing ID No. 58), 313, LLKKARI (amino acids 6-12 of
Sequence Listing ID No. 58), 315, KKARIHPF (amino acids 8-15 of
Sequence Listing ID No. 58), 330, TYKTGHGLRGKLKWRPDE (Sequence
Listing ID No. 59), 331, YKTGHGL (amino acids 2-8 of Sequence
Listing ID No. 59), 352, ALDAAFYK (Sequence Listing ID No. 60),
355, AAFYKTFKTVEPTGKRFLLA (Sequence Listing ID No. 61), [362]
379, [ASMNORVLGS] ASMNQRVLGS (Sequence Listing ID No. 62), 365,
EPTGKRFLLA (amino acids 11-18 of Sequence Listing ID No. 61), 398,
AMCMVVTR (Sequence Listing ID No. 63), 414, AFSDEMVP (Sequence
Listing ID No. 64), 420, VPCPVTTD (Sequence Listing ID No. 65),
433, VLMAMSQI (Sequence Listing ID No. 66), 445, TDCSLPMI
(Sequence Listing ID No. 67), 449, LPMIWAQKTNTPA (amino acids 3-
15 of Sequence Listing ID No. 68), [453] 472, TFAGGVHPAI
(Sequence Listing ID No. 69), 472, [TFAGGVHPAI, 472,] TFAGGVHP
(amino acids 1-8 of Sequence Listing ID No. 69), [482] 481,
IALREYRKMDIPAKL (Sequence Listing ID No. 70), 484, REYRKMD
(amino acids 4-11 of Sequence Listing ID No. 70);

the Sm B/B' epitopes: [20] 28, IGTFKAFD (Sequence
Listing ID No. 103), [21] 29, GTFKAFDK (Sequence Listing ID No.
1), [22] 30, TFKAFDKH (amino acids 1-8 of Sequence Listing ID No.
15) 29, [GTFKAFDK] 30, TFKAFDKHM (Sequence Listing ID No. 15) 44,
DCDEFRKI (Sequence Listing ID No. 104) 45, [CDEFAKIK] CDEFRKIK
(amino acids 1-8 of Sequence Listing ID No. 2) 45,

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CDEFRKIKPKNAKQP (Sequence Listing ID No. 2), 46, [DEFRKJKP]
DEFRKIKP (amino acids 2-9 of Sequence Listing ID No. 2), 47,
EFRKIKPK (amino acids 3-10 of Sequence Listing ID No. 2), [76]
48, [FRKJPKN] FRKIKPKN (amino acids 4-11 of Sequence Listing ID
No. 2), [77] 49, RKIKPKNA (amino acids 5-12 of Sequence Listing
ID No. 2), [78] 50, KIKPKNAK (amino acids 6-13 of Sequence
Listing ID No. 2), [79] 51, IKPKNAKQ (amino acids 7-14 of
Sequence Listing ID No. 2), [80] 52, [KPKNAKOP] KPKNAKQP (amino
acids 8-15 of Sequence Listing ID No. 2), [81] 53, PKNAKQPE
(Sequence Listing ID No. 105), 83, EGPPPKDT (Sequence Listing ID
No. 16), 88, KDTGIARV (Sequence Listing ID No. 17), 94, RVPLAGAA
(Sequence Listing ID No. 3), 101, AGGPGVGRAAGRGVPAG (Sequence
Listing ID No. 4), 104, PGVGRAAG (amino acids 4-11 of Sequence
Listing ID No. 4), 120, IPQAPAGLAG (Sequence Listing ID No. 18),
125, AGLAGPVRGVGGPSQ (Sequence Listing ID No. 5), 131, VRGVGGPS
(amino acids 6-13 of Sequence Listing ID No. 5) 139, QQVMTPQG
(Sequence Listing ID No. 107), 140, QVMTPQGR (amino acids 1-6 of
Sequence Listing ID No. 6), 141, [VMTPOGRG] VMTPQGRG, amino acids
2-9 of (Sequence Listing ID No. 6), 144, [POGR] PQGR (amino acids
5-8 of Sequence Listing ID No. 6), 142, [MTPQGBGT] MTPQGRGT
(amino acids 3-11 of Sequence Listing ID No. 6), 143, TPQGRGTV,
(amino acids 4-11 of Sequence Listing ID No. 6), 144, PQGRGTVA
(amino acids 5-12 of Sequence Listing ID No. 6) 145, QGRGTVA
(Sequence Listing ID No. 108) 164, APTQYPPG (Sequence Listing ID

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No. 109) 165, PTQYPPGR (amino acids 1-8 of Sequence Listing ID No. 7) 166, TQYPPGRG (amino acids 2-9 of Sequence Listing ID No. 7) 167, QYPPGRGT, amino acids 3-10 of (Sequence Listing ID No. 7) 168, YPPGRGTP (amino acids 4-11 of Sequence Listing ID No. 7) 169, PPGRGTTPP (amino acids 5-12 of Sequence Listing ID No. 7) 170, PGRGTPPPP (amino acids 6-13 of Sequence Listing ID No. 7) 171, GRGTPPPP (amino acids 7-14 of Sequence Listing ID No. 7) 172, RGTTPPPP (amino acids 8-15 of Sequence Listing ID No. 7) 173, GTPPPPVG (Sequence Listing ID No. 110) 174, TPPPPVGRATPPGI (Sequence Listing ID No. 8), 175, PPPPVGRA (amino acids 2-9 of Sequence Listing ID No. 8), 184, PPPGIMAP (Sequence Listing ID No. 9), 188, IMAPPPGM (Sequence Listing ID No. 111), 189, MAPPPGMRPPM (Sequence Listing ID No. 10), 189, MAPPPGMR (amino acids 1-8 of Sequence Listing ID No. 10), 191, PPPGMR (amino acids 3-8 of Sequence Listing ID No. 13), 190, APPPGMRP (amino acids 2-9 of Sequence Listing ID No. 10), 191, PPPGMRPP (amino acids 3-10 of Sequence Listing ID No. 10), 192, PPGMRPPM (amino acids 4-11 of Sequence Listing ID No. 10), 202, PIGLPPARGTPIGMPP (Sequence Listing ID No. 11), 206, PPARGTPI, (amino acids 5-11 of Sequence Listing ID No. 11), 212, PIGMPPPG (Sequence Listing ID No. 12), 213, IGMPPPGM (Sequence Listing ID No. 12), 214, [GMPPPGMB] GMPPPGMR (Sequence Listing ID No. 113), [216, PPPGMB,] 215, MPPPGMRP (Sequence Listing ID No. 118), 216, PPPGMRPP (amino acids 4-11 of Sequence Listing ID No. 14), 217, PPGMRPPP

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(Sequence Listing ID No. 114), 220, MRPPPGI (Sequence Listing ID No. 115), 221, RPPPPGIR (amino acids 1-8 of Sequence Listing ID No. 13), 221, RPPPPGIRGPP (Sequence Listing ID No. 13), 223, PPPGIR (amino acids 3-8 of Sequence Listing ID No. 13), 222, PPPPGIRG (amino acids 2-9 of Sequence Listing ID No. 13), 223, PPPGIRGP (amino acids 3-10 of Sequence Listing ID No. 13), 224, PPGIRGPP (amino acids 4-11 of Sequence Listing ID No. 13), 228, RGPPPPGM (amino acids 1-8 of Sequence Listing ID No. 14), 228, RGPPPPGMRPPR (Sequence Listing ID No. 14), 229, GPPPPGMR (amino acids 2-9 of Sequence Listing ID No. 14), 230, PPPPGMRP (amino acids 3-10 of Sequence Listing ID No. 14), 231, PPPGMRPP (amino acids 4-11 of Sequence Listing ID No. 14), 231, PPPGMR (amino acids 3-8 of Sequence Listing ID No. 10), and 232, PPGMRPPR (amino acids 5-12 of Sequence Listing ID No. 14);

the 70 kD nRNP epitopes: (11) ALFAPRDP (Sequence Listing ID No. 72), (65) ERMERKRR (Sequence Listing ID No. 73), (133) MVYSKRSG (Sequence Listing ID No. 74), (161) GKKIDGRR (Sequence Listing ID No. 75), (178) VERGRTVK (Sequence Listing ID No. 76), (186) VKGWRPRR (Sequence Listing ID No. 77), (264) RRSRSRDK (Sequence Listing ID No. 78), (274) RRRSRERS (Sequence Listing ID No. 79), (277) SRERSKDK (Sequence Listing ID No. 80), (282) KRRSSRSR (Sequence Listing ID No. 81), and (355) RRSHRSER (Sequence Listing ID No. 82);

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*Sub B1
B2
C1*

the nRNP A peptide epitopes: (16) LNEKIKKD (Sequence Listing ID No. 83), (21) KKDELKKS (Sequence Listing ID No. 84), (44*) SRSLKMRG (Sequence Listing ID No. 85), (73) FFYDKPMR (Sequence Listing ID No. 86), (93) IIAKMKGTF (Sequence Listing ID No. 87), (103*) DRKREKRK (Sequence Listing ID No. 88), (116) QETPATKK (Sequence Listing ID No. 89), (263) ALOGFKIT (Sequence Listing ID No. 90), and (274) MKISFAKK (Sequence Listing ID No. 91); and

the nRNP C peptide epitopes: (19) RKHKENVK (Sequence Listing ID No. 92), (35) KDYYQKWM (Sequence Listing ID No. 93), (56) AFOOQKIP (Sequence Listing ID No. 94), (61) KIPPTPFS (Sequence Listing ID No. 95), (78) PPPPSLPG (Sequence Listing ID No. 96), (82) SLPGPPRP (Sequence Listing ID No. 97), (85) PPRPGMMMP (Sequence Listing ID No. 98), (108) PPPPGMMMP (Sequence Listing ID No. 99), (117) GPAPGMRP (Sequence Listing ID No. 100), (136) PPMMRPPA (Sequence Listing ID No. 101), and (152) PGMTRPDR (Sequence Listing ID No. 102).

13. (amended) The method of claim 12 wherein the [epitopes] peptides are labelled with a compound selected from the group consisting of dyes, fluorescent labels, chemiluminescent labels, enzymes, and radioactive labels.

Sub. D2
D2

16. (amended) The method of claim 15 further comprising predicting the prognosis of the patient based on the reactivity of the patient sample with the [epitopes] peptides.

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17. (twice amended) A method for treating patients for autoimmune disorders comprising administering to the patient a peptide forming a linear [an] epitope selected from the group of peptides of less than forty amino acids, beginning with the amino acid numbered from the amino terminus followed by the listed amino acid sequence consisting of

*BV
cont*

the La/SSB epitopes: 136, QVLNIQMRRTLHKAFKGS (Sequence Listing ID No. 19), 139, NIQMRRTLHKAFK (amino acids 4-16 of Sequence Listing ID No. 19), 144, RTLHKAFK (amino acids 9-16 of Sequence Listing ID No. 19), 17, ICHQIEYYFGDFNLPRDKFLK (Sequence Listing ID No. 20), 24, YFGDFNLP (amino acids 8-15 of Sequence Listing ID No. 20), 46, WVPLEIMIKFNR (Sequence Listing ID No. 21), 47, VP~~LEIMIK~~ (amino acids 2-9 of Sequence Listing ID No. 21), 86, [KKTKIRRSPSKPL] KTKIRRSPSKPL (Sequence Listing ID No. 22), [89] 88, KIRRSPSK (amino acids 4-11 of Sequence Listing ID No. 22), 56, NRLNRLTTDFNVIVE, (Sequence Listing ID No. 23), 56, N~~RLNRLTT~~ (amino acids 1-8 of Sequence Listing ID No. 23), 257, GEIKWIDFVRGAK (Sequence Listing ID No. 24), 260, KWIDFVRGAK (amino acids 4-13 of Sequence Listing ID No. 24), 262, IDFVRGAK (amino acids 6-13 of Sequence Listing ID No. 24), 325, SLNKWKSKGRRFKGKGKGNK (Sequence Listing ID No. 25), 330, KSKGRRFK (amino acids 6-13 of Sequence Listing ID No. 25), 292, GNLQLRNKEVTW (Sequence Listing ID No. 26), 296, LRNKEVTW (amino acids 5-12 of Sequence Listing ID No. 26), 154, IFVVFD~~SIE~~

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(Sequence Listing ID No. 27), 155, FVVFDSIE (amino acids 2-9 of Sequence Listing ID No. 27), 176, KETDLLILFKDDYFA (Sequence Listing ID No. 28), 182, ILFKDDYF (amino acids 7-14 of Sequence Listing ID No. 28), 104, YKNDVKNRSVYIKGFPT (Sequence Listing ID No. 29), 112, SVYIKGFP (amino acids 9-16 of Sequence Listing ID No. 29), 63, TDFNVIVE (Sequence Listing ID No. 30), 64, DFNVIVEA (amino acids 2-9 of Sequence Listing ID No. 30), 270, EGIILFKEKAK (Sequence Listing ID No. 31), 270, EGIILFKE (amino acids 1-8 of Sequence Listing ID No. 31), 354, KVQFQGKTKFASD, (Sequence Listing ID No. 32), 360, KKTKFASD (amino acids 7-14 of Sequence Listing ID No. 32), 246, REDLHILF (Sequence Listing ID No. 33), 232, CLLKFSGD (Sequence Listing ID No. 34), 379, TGPVKRAR (Sequence Listing ID No. 35), 200, KVEAKLRAKQ (Sequence Listing ID No. 36), 202, EAKLRAKQ (amino acids 3-10 of Sequence Listing ID No. 36), ;

the Ro/SSA epitopes: 30, MNRLHRFL (Sequence Listing ID No. 37), 37, LCFGSEGGT (Sequence Listing ID No. 38), 38, CFGSEGGT (amino acids 2-9 of Sequence Listing ID No. 38), [44] 41, SEGGTYYIKEQ (Sequence Listing ID No. 39), [45] 42, EGGTYYIKEQ (amino acids 2-11 of Sequence Listing ID No. 39), [47] 44, GTYYIKEQ (amino acids 4-11 of Sequence Listing ID No. 39), [47] 44, GTYYI (amino acids 4-8 of Sequence Listing ID No. 39), [74] 76, EIKSFSQEGRT (Sequence Listing ID No. 40), 78, KSFSQEGR (amino acids 3-10 of Sequence Listing ID No. 40), 81, SQEGRTTKQ

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(Sequence Listing ID No. 41), 84, GRTTKQEPM (Sequence Listing ID No. 42), [105] 106, STKQAAFKAV (amino acids 2-11 of Sequence Listing ID No. 43), [106] 105, ISTKQAAFKAVS (Sequence Listing ID No. 43), [109] 108, KQAAFKAV (amino acids 4-11 of Sequence Listing ID No. 43), 111, AFKAVSEVC (Sequence Listing ID No. 44), 126, FTFIQFKKDLKESMK (Sequence Listing ID No. 45), 130, QFKKDLKE (amino acids 5-12 of Sequence Listing ID No. 45), 138, SMKCGMWGRA (Sequence Listing ID No. 46), 139, MKCGMWGRA (amino acids 2-10 of Sequence Listing ID No. 46), 142, GMWGRALRKAIA (Sequence Listing ID No. 47), 145, GRALRKAI (amino acids 4-11 of Sequence Listing ID No. 47), 165, [ALAVTKYKQRNGWSHKDLLRLSH]
ALAVTKYKQRNGWSHKDLLRLSH (Sequence Listing ID No. 48), 169, [TKYKQRNG] TKYKQRNG (amino acids 5-12 of Sequence Listing ID No. 48), 173, [ORNGWSHK] QRNGWSHK (amino acids 9-16 of Sequence Listing ID No. 48), 182, LLRLSHLKPSS (Sequence Listing ID No. 49), 184, RLSHLKPS (amino acids 3-10 of Sequence Listing ID No. 49), [198] 199, TKYITKGW (amino acids 2-9 of Sequence Listing ID No. 71), [201] 202, ITKGWKEV (amino acids 5-12 of Sequence Listing ID No. 71), 210, HELEYKEKA (Sequence Listing ID No. 50), 212, LYKEKALSV (Sequence Listing ID No. 51), [215] 216, KALSVETEKLLKYL (Sequence Listing ID No. 52), [221] 222, TEKLLKYL (amino acids 7-14 of Sequence Listing ID No. 52), 224, KLLKYLEA (Sequence Listing ID No. 53), 229, LEAVEVKVKRTKDE (Sequence Listing ID No. 54), 234, KVVKRTKDE (amino acids 6-13 of Sequence Listing ID No. 54)

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Listing ID No. 54), 257, HLLTNHLKSKEVWKALLQEMPL (Sequence Listing
ID No. 55), 263, LKSKEVWK (amino acids 7-14 of Sequence Listing
ID No. 55), 264, KSKEVWK (amino acids 8-15 of Sequence Listing
ID No. 55), 265, SKEVWK (amino acids 9-14 of Sequence Listing ID
No. 55), 280 ALLRNLGKMTA (Sequence Listing ID No. 56), 283,
RNLGKMT (amino acids 4-10 of Sequence Listing ID No. 56), 285,
LGKMTANS (Sequence Listing ID No. 57), 308, LCNEKLLKKARIHPFHI
(Sequence Listing ID No. 58), 313, LLKKARI (amino acids 6-12 of
Sequence Listing ID No. 58), 315, KKARIHPF (amino acids 8-15 of
Sequence Listing ID No. 58), 330, TYKTGHGLRGKLKWRPDE (Sequence
Listing ID No. 59), 331, YKTGHGL (amino acids 2-8 of Sequence
Listing ID No. 59), 352, ALDAAFYK (Sequence Listing ID No. 60),
355, AAFYKTFKTVPTGKRFLLA (Sequence Listing ID No. 61), [362]
379, [ASMNORVLGS] ASMNQRVLGS (Sequence Listing ID No. 62), 365,
EPTGKRF (amino acids 11-18 of Sequence Listing ID No. 61), 398,
AMCMVVTR (Sequence Listing ID No. 63), 414, AFSDEMVP (Sequence
Listing ID No. 64), 420, VPCPVTTD (Sequence Listing ID No. 65),
433, VLMAMSQI (Sequence Listing ID No. 66), 445, TDCSLPMI
(Sequence Listing ID No. 67), 449, LPMIWAQKTNTPA (amino acids 3-
15 of Sequence Listing ID No. 68), [453] 472, TFAGGVHPAI
(Sequence Listing ID No. 69), 472, [TFAGGVHPAI, 472,] TFAGGVHVP
(amino acids 1-8 of Sequence Listing ID No. 69), [482] 481,
IAIAREYRKMDIPAKL (Sequence Listing ID No. 70), 484, REYRKMD
(amino acids 4-11 of Sequence Listing ID No. 70);

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the Sm B/B' epitopes: [20] 28, IGTFKAFD (Sequence Listing ID No. 103), [21] 29, GTFKAFDK (Sequence Listing ID No. 1), [22] 30, TFKAFDKH (amino acids 1-8 of Sequence Listing ID No. 15) 29, [GTFKAFDK] 30, TFKAFDKHM (Sequence Listing ID No. 15) 44, DCDEFRKI (Sequence Listing ID No. 104) 45, [CDEFAKIK] CDEFRKIK (amino acids 1-8 of Sequence Listing ID No. 2) 45, CDEFRKIKPKNAKQP (Sequence Listing ID No. 2), 46, [DEFRKJKP] DEFRKIKP (amino acids 2-9 of Sequence Listing ID No. 2), 47, EFRKIKPK (amino acids 3-10 of Sequence Listing ID No. 2), [76] 48, [FRKJKPKN] FRKIKPKN (amino acids 4-11 of Sequence Listing ID No. 2), [77] 49, RKIKPKNA (amino acids 5-12 of Sequence Listing ID No. 2), [78] 50, KIKPKNAK (amino acids 6-13 of Sequence Listing ID No. 2), [79] 51, IKPKNAKQ (amino acids 7-14 of Sequence Listing ID No. 2), [80] 52, [KPKNQKOP] KPKNQKQP (amino acids 8-15 of Sequence Listing ID No. 2), [81] 53, PKNAQPE (Sequence Listing ID No. 105), 83, EGPPPKDT (Sequence Listing ID No. 16), 88, KDTGIARV (Sequence Listing ID No. 17), 94, RVPLAGAA (Sequence Listing ID No. 3), 101, AGGPGVGRAAGRGVPAG (Sequence Listing ID No. 4), 104, PGVGRAAG (amino acids 4-11 of Sequence Listing ID No. 4), 120, IPQAPAGLAG (Sequence Listing ID No. 18), 125, AGLAGPVRGVGGPSQ (Sequence Listing ID No. 5), 131, VRGVGGPS (amino acids 6-13 of Sequence Listing ID No. 5) 139, QQVMTPQGQ (Sequence Listing ID No. 107), 140, QVMTPQGR (amino acids 1-6 of Sequence Listing ID No. 6), 141, [VMTPOGRG] VMTPOGRG, amino acids

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2-9 of (Sequence Listing ID No. 6), 144, [POGR] PQGR (amino acids
5-8 of Sequence Listing ID No. 6), 142, [MTPQGBGT] MTPQGRGT
(amino acids 3-11 of Sequence Listing ID No. 6), 143, TPQGRGTV,
(amino acids 4-11 of Sequence Listing ID No. 6), 144, PQGRGTV
(amino acids 5-12 of Sequence Listing ID No. 6) 145, QGRGTVAA
(Sequence Listing ID No. 108) 164, APTQYPPG (Sequence Listing ID
No. 109) 165, PTQYPPGR (amino acids 1-8 of Sequence Listing ID
No. 7) 166, TQYPPGRG (amino acids 2-9 of Sequence Listing ID No.
7) 167, QYPPGRGT, amino acids 3-10 of (Sequence Listing ID No. 7)
168, YPPGRGTP (amino acids 4-11 of Sequence Listing ID No. 7)
169, PPGRGTPP (amino acids 5-12 of Sequence Listing ID No. 7)
170, PGRGTPPP (amino acids 6-13 of Sequence Listing ID No. 7)
171, GRGTPPPP (amino acids 7-14 of Sequence Listing ID No. 7)
172, RGTPPPPV (amino acids 8-15 of Sequence Listing ID No. 7)
173, GTPPPPVG (Sequence Listing ID No. 110) 174, TPPPPVGRATPPPGI
(Sequence Listing ID No. 8), 175, PPPPVGRA (amino acids 2-9 of
Sequence Listing ID No. 8), 184, PPPGIMAP (Sequence Listing ID
No. 9), 188, IMAPPPGM (Sequence Listing ID No. 111), 189,
MAPPPGMRPPM (Sequence Listing ID No. 10), 189, MAPPPGMR (amino
acids 1-8 of Sequence Listing ID No. 10), 191, PPPGMR (amino
acids 3-8 of Sequence Listing ID No. 13), 190, APPPGMRP (amino
acids 2-9 of Sequence Listing ID No. 10), 191, PPPGMRPP (amino
acids 3-10 of Sequence Listing ID No. 10), 192, PPGMRPPM (amino
acids 4-11 of Sequence Listing ID No. 10), 202, PIGLPPARGTPIGMPP

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(Sequence Listing ID No. 11), 206, PPARGTPI, (amino acids 5-11 of Sequence Listing ID No. 11), 212, PIGMPPPG (Sequence Listing ID No. 12), 213, IGMPPPGM (Sequence Listing ID No. 12), 214, [GMPPPGMB] GMPPPGMR (Sequence Listing ID No. 113), [216, PPPGMB,] 215, MPPPGMRP (Sequence Listing ID No. 118), 216, PPPGMRPP (amino acids 4-11 of Sequence Listing ID No. 14), 217, PPGMRPPP (Sequence Listing ID No. 114), 220, MRPPPGI (Sequence Listing ID No. 115), 221, RPPPPGIR (amino acids 1-8 of Sequence Listing ID No. 13), 221, RPPPPGIRGPP (Sequence Listing ID No. 13), 223, PPPGIR (amino acids 3-8 of Sequence Listing ID No. 13), 222, PPPPGIRG (amino acids 2-9 of Sequence Listing ID No. 13), 223, PPPGIRGP (amino acids 3-10 of Sequence Listing ID No. 13), 224, PPGIRGPP (amino acids 4-11 of Sequence Listing ID No. 13), 228, RGPPPPGM (amino acids 1-8 of Sequence Listing ID No. 14), 228, RGPPPPGMRPPR (Sequence Listing ID No. 14), 229, GPPPPGMR (amino acids 2-9 of Sequence Listing ID No. 14), 230, PPPPGMRP (amino acids 3-10 of Sequence Listing ID No. 14), 231, PPPGMRPP (amino acids 4-11 of Sequence Listing ID No. 14), 231, PPPGMR (amino acids 3-8 of Sequence Listing ID No. 10), and 232, PPGMRPPR (amino acids 5-12 of Sequence Listing ID No. 14);

the 70 kD nRNP epitopes: (11) ALFAPRDP (Sequence Listing ID No. 72), (65) ERMERKRR (Sequence Listing ID No. 73), (133) MVYSKRSG (Sequence Listing ID No. 74), (161) GKKIDGRR (Sequence Listing ID No. 75), (178) VERGRTVK (Sequence Listing ID

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No. 76), (186) VKGWRPRR (Sequence Listing ID No. 77), (264)
RRRSRSRDK (Sequence Listing ID No. 78), (274) RRRSRERS (Sequence
Listing ID No. 79), (277) SRERSKDK (Sequence Listing ID No. 80),
(282) KRRSSRSR (Sequence Listing ID No. 81), and (355) RRSHRSER
(Sequence Listing ID No. 82);

B N
D A
C

the nRNP A peptide epitopes: (16) LNEKIKKD (Sequence
Listing ID No. 83), (21) KKDELKKS (Sequence Listing ID No. 84),
(44*) SRSLKMRG (Sequence Listing ID No. 85), (73) PFYDKPMR
(Sequence Listing ID No. 86), (93) ITAKMKGTF (Sequence Listing ID
No. 87), (103*) DRKREKRK (Sequence Listing ID No. 88), (116)
QETPATKK (Sequence Listing ID No. 89), (263) ALOGFKIT (Sequence
Listing ID No. 90), and (274) MKISEAKK (Sequence Listing ID No.
91); and

the nRNP C peptide epitopes: (19) RKHKENVK (Sequence
Listing ID No. 92), (35) KDYYQKWM (Sequence Listing ID No. 93),
(56) AFQOOGKIP (Sequence Listing ID No. 94), (61) KIPPTPFS
(Sequence Listing ID No. 95), (78) PPPPSLPG (Sequence Listing ID
No. 96), (82) SLPGPPRP (Sequence Listing ID No. 97), (85)
PPRPGMMP (Sequence Listing ID No. 98), (108) PPPPGMMP (Sequence
Listing ID No. 99), (117) GPAPGMRP (Sequence Listing ID No. 100),
(136) PPMMRPPA (Sequence Listing ID No. 101), and (152) PGMTRPDR
(Sequence Listing ID No. 102).

18. (amended) The method of claim 17 wherein the
[epitope] peptide acts as a vaccine against an autoimmune disorder.